

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each:

- 1 1 (Currently Amended). A method for representing a business process within a computing system, comprising the steps of:
 - 3 defining the business process using a state-machine based representation where transitions of the state machine represent roles and actions, and states of the state machine represent stages in the business process where the commerce system is waiting for an event to occur;
 - 7 generating computer code of a state machine representing a business process to be implemented;
 - 9 providing a graphical user interface (GUI) used to view and edit a graphical representation of the state machine representing the business process, wherein business processes can be created and modified by changing, adding, and/or removing states and transitions from the state machine representation of the business processes using the GUI and once the graphical representation is modified, a newly depicted state machine code representation is generated by computer software;
 - 16 identifying the actions that participants with particular roles can perform at particular stages of the business process by corresponding state in the state machine and out-going transitions from that state; and
 - 19 storing the state machine representation of the process, including actions that participants with particular roles can perform at particular stages of the business process by corresponding state in the state machine and out-going transitions from that state.
- 22 2 (Canceled).
- 1 3 (Original). The method of claim 1, wherein attributes of a state-machine based representation are tailored to a particular user.

1 4 (Original). The method of claim 1, wherein the state-machine based
2 representation includes means for validating that actions taken by a user
3 are allowed by the state machine description so as to ensure that the user
4 has a role that can perform the requested action at that state.

1 5 (Original). The method of claim 1, wherein the business processes and
2 their state-machine based representations can be synchronized with other
3 business processes by passing messages between state machines.

1 6 (Currently Amended). A method for executing a business process
2 represented as a state machine running on a computing system, where
3 transitions of the state machine represent roles of participants in the
4 business process and actions that can be taken as part of the business
5 process, and states of the state machine represent stages in the business
6 process where the business process is waiting for an event to occur, the
7 method comprising the steps of:

8 ~~receiving from a user a command representing a desired action to~~
9 ~~be performed as part of the business process;~~

10 ~~checking the role of the user within the business process and a~~
11 ~~context in which the command occurs;~~

12 ~~if the command is allowable by a user with the role within the~~
13 ~~context, executing the command~~

14 retrieving a context of a invocation of an action including retrieval
15 and marshaling of incoming parameters and deriving of user and role
16 information;

17 determining by a commerce flow engine which state machine
18 corresponds to a requested commerce function based on the action and its
19 context;

20 determining by the commerce flow engine whether the action is
21 creating a new instance or working on an existing instance, and if a new
22 instance, once the new instance is created, setting to a start state used by its
23 underlying state machine;

24 after creating or retrieving the instance, determining by the
25 commerce flow engine whether the action is valid based on a role of the
26 requester and there is a transition in the state machine from the instance's
27 current state with the requested action;
28 determining by the commerce flow engine a state to which the
29 transition corresponding to the action would move the instance in and
30 storing this state as a pending state;
31 executing by the commerce execution engine a command
32 corresponding to the requested action; and
33 storing the pending state that had been stored as a current state with
34 the pending state being cleared.

1 7 (Original). The method of claim 6, further comprising the step of
2 displaying to users a list of possible commands to be issued by the user as
3 part of the business process.

1 8 (Original). The method of claim 7, where the displayed commands are
2 selected for display based on the user's role within the business process,
3 the context of the business process, and the state of the business process.

1 9 (Original). The method of claim 6, wherein different versions of a
2 business process represented as different state machines share software for
3 actions common in the different state machines, and share user interfaces
4 by generating a means of user interaction based on the state machine
5 descriptions.

1 10 (Currently amended). The method of claim 6, where the execution of
2 different instances of a particular business process ~~are~~ is handled by storing
3 a current state for each instance of the business process.

1 11 (Currently Amended). A system for executing a business process
2 represented as a state machine running on a computing system, where

3 transitions of the state machine represent roles of participants in the
4 business process and actions that can be taken as part of the business
5 process, and states of the state machine represent stages in the business
6 process where the business process is waiting for an event to occur, the
7 system comprising:

8 ~~means for receiving from a user a command representing a desired~~
9 ~~action to be performed as part of the business process;~~

10 ~~means for checking the role of the user within the business process~~
11 ~~and a context in which the command occurs;~~

12 ~~means for, if the command is allowable by a user with the role~~
13 ~~within the context, executing the command~~

14 a computer code representation of a state machine representing a
15 business process to be implemented;

16 a graphical user interface (GUI) used to view and edit a graphical
17 representation of the state machine representing the business process,
18 wherein business processes can be created and modified by changing,
19 adding, and/or removing states and transitions from the state machine
20 representation of the business processes using the GUI and once the
21 graphical representation is modified, a newly depicted state machine code
22 representation is generated by computer software;

23 a commerce flow engine which stores and executes the state
24 machine representation of the process, including management of process
25 user inputs, wherein when newly created or modified process is compiled,
26 a resulting state machine is loaded for storage in state machine storage and
27 wherein when a user works on a business process, a state machine is
28 retrieved from said state machine storage, and

29 a client on which end users may interact with the system, actions
30 requested by end users being passed to the commerce flow engine which
31 processes client inputs and provides output to the client.

1 12 (Currently Amended). A computer program product in a computer
2 readable medium for representing a business process within a computing

3 system, the computer program product comprising:

4 first instructions for defining the business process using a
5 state-machine based representation where transitions of the state machine
6 represent roles and actions, and states of the state machine represent stages
7 in the business process where the commerce system is waiting for an event
8 to occur;

9 second instructions for providing a graphical user interface (GUI)
10 used to view and edit a graphical representation of the state machine
11 representing the business process, wherein business processes can be
12 created and modified by changing, adding, and/or removing states and
13 transitions from the state machine representation of the business processes
14 using the GUI and once the graphical representation is modified, a newly
15 depicted state machine code representation is generated by computer
16 software;

17 third instructions for identifying the actions that participants with
18 particular roles can perform at particular stages of the business process by
19 corresponding state in the state machine and out-going transitions from
20 that state; and

21 fourth instructions for storing the state machine representation of
22 the process, including actions that participants with particular roles can
23 perform at particular stages of the business process by corresponding state
24 in the state machine and out-going transitions from that state.

1 13 (Currently amended). A computer program product in a computer
2 readable medium for executing a business process within a computing
3 system, said business process being represented as a state machine running
4 on said computing system, the computer program product comprising:

5 first instructions for receiving from a user a command representing
6 a desired action to be performed as part of the business process;

7 second instructions for retrieving a context of a invocation of an
8 action including retrieval and marshaling of incoming parameters and
9 deriving of user and role information;

10 third instructions for determining by a commerce flow engine
11 which state machine corresponds to a requested commerce function based
12 on the action and its context;

13 fourth instructions for determining by the commerce flow engine
14 whether the action is creating a new instance or working on an existing
15 instance, and if a new instance, once the new instance is created, setting to
16 a start state used by its underlying state machine;

17 fifth instructions for checking the role of the user within the
18 business process and a context in which the command occurs;

19 sixth instructions for determining a state to which the transition
20 corresponding to the action would move the instance in and storing this
21 state as a pending state;

22 third seventh instructions for, if the command is allowable by a
23 user with the role within the context, executing the command; and

24 eighth instruction for storing the pending state that had been stored
25 as a current state with the pending state being cleared.

1 14 (New). The method of claim 6, further comprising the step of
2 determining by the commerce flow engine whether a message needs to be
3 sent out when the current state is reached within the machine.

1 15 (New). The system for executing a business process recited in claim 11,
2 wherein the particular state machine retrieved from state machine storage
3 depends on the business process, an identity of the client, and other
4 variable criteria, the commerce flow engine including a storage of a current
5 state of a process instance and processing of client inputs depending on the
6 current state of the process instance and a role of the action requester.

1 16 (New). The system for executing a business process recited in claim 11,
2 wherein end users interact with the system by means of a web browser
3 operating on the client.